



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,256	04/09/2001	Jeffrey Dinkel	DINK1	7582
6980	7590	12/12/2007	EXAMINER	
TROUTMAN SANDERS LLP			A, PHI DIEU TRAN	
600 PEACHTREE STREET , NE			ART UNIT	PAPER NUMBER
ATLANTA, GA 30308			3633	
			MAIL DATE	DELIVERY MODE
			12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/829,256	DINKEL, JEFFREY
	Examiner Phi D. A	Art Unit 3633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 September 2007.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-13, 45, 46 and 49-51 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-13, 45, 46 and 49-51 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

**PRODUCT BY PROCESS CLAIM:**

"The subject matter present is regarded as a product by process claim in which a product is introduced by the method in which it is made. It is the general practice of this office to examine the final product described regardless of the method provided by the applicant."

*The above office policy applies to the limitation "non-liquid applied".*

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-9, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (01/0000738) in view of Moore (4882888) and Dinkel(3284980).

Mathieu (figure 9) discloses a prefabricated construction element/panel having asymmetrical construction element with cementitious core (10, col 7 line 7) having an upper principal face and a lower principal face, alkaline resistance fiber to be used with a Portland cement, having additive of expanded shale (col 10 line 3 third paragraph), a cementitious bonding surface (per the slurry layer 4 on top of the core 10) remaining on the upper principal face of the construction element after the manufacture of the construction element, pervious upper reinforcement material(mesh 12) on the upper principal surface of the core, a cement slurry binding the reinforcement layer on the upper face of the core, an upper coating/cement slurry(4) in communication with the upper principal face of the core and the pervious upper reinforcement material, the layer comprising a fiberglass mesh with an alkaline resistant coating selected from the group consisting of woven fiberglass and fiberglass skrim, the construction

element being asymmetrical in design such that a layer or layers on the upper principal surface differ in arrangement from the layer or layers on the lower principal surface (figure 9 shows the asymmetry per the arrangement of membrane layer 4).

Mathieu does not show the core having alkaline resistance fiber, there is only one non-cementitious reinforcement impervious membrane for the construction element, that being located on the lower principal face of the core, a non-cementitious surface remaining on the lower principal face of the construction after the manufacture of the construction elements, and an non-cementitious reinforcement impervious web remaining on the lower principle surface of the core after the manufacture of the element, and the web being high tensile strength, the membrane being a polymer membrane, the web being a single polymer membrane layer, the web having a sufficient tensile strength to provide the element with a flexural strength capable of supporting loads associated used as an underlayment or backerboard, the web having a resistant to free water penetration greater than or equal to that of felt paper.

Moore shows an impervious non-cementitious reinforcement polymer web (20) remaining on the lower principle surface of the core (24) after the manufacture of the element to act as a water vapor barrier, the membrane (22) being a single polymer web layer, only one impervious web located on the lower principle surface of the core(24), the web being high tensile strength, the membrane being a polymer membrane, the web being a single polymer membrane layer, the web having a sufficient tensile strength to provide the element with a flexural strength capable of supporting loads associated used as an underlayment or backerboard, the web having a resistant to free water penetration greater than or equal to that of felt paper (inherently so per the material of the web).

Dinkel discloses fiber in the core to reinforce the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu to show the core having alkaline resistance fiber, there is only one non-cementitious reinforcement impervious membrane for the construction element, that being located on the lower principal face of the core, a non-cementitious surface remaining on the lower principal face of the construction after the manufacture of the construction elements, and an non-cementitious reinforcement impervious web remaining on the lower principle surface of the core after the manufacture of the element, and the web being high tensile strength, the membrane being a polymer membrane, the web being a single polymer membrane layer, the web having a sufficient tensile strength to provide the element with a flexural strength capable of supporting loads associated used as an underlayment or backerboard, the web having a resistant to free water penetration greater than or equal to that of felt paper because fiber would reinforce and strengthen the core as taught by Dinkel, and having an non-cementatious impervious web on the lower principle surface of the core after the manufacture of the element, the membrane being only a single polymer membrane layer on the lower principle surface with sufficient flexural strength would provide a good water barrier to the construction element as taught by Moore.

Mathieu as modified shows the prefabricated asymmetrical construction element having a non-cementitious surface remaining on the lower principal face of the construction element after the manufacture of the construction element, an impervious non-cementitious reinforcement membrane on the lower principal face of the core, the membrane remaining on the lower face of the core after the manufacture of the construction element.

2. Claims 2, 3, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore and Dinkel(3284980).

Mathieu as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

3. Claims 4, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore, Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Nicoll Jr. (3887952).

Mathieu as modified shows all the claimed limitations except for the web having water impervious paperboard.

Nicoll Jr. shows a water impervious web being paperboard.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the membrane being water impervious paperboard as taught by Nicoll Jr. because waterproof paperboard allows for the easy and cheap construction of a waterproof layer as taught by Nicoll Jr.

4. Claims 5, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore, Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Flack et al (4828635).

Mathieu as modified shows all the claimed limitations except for the web comprising spunbonded olefin.

Flack et al discloses a web made of spunbonded olefin.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the membrane comprising spunbonded olefin because it allows for the construction of a water vapor permeable layer and energy cost saving as taught by Flack et al.

5. Claims 6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore, Dinkel(3284980) as applied to claim 2 or 8 above and further in view of Galer (4450022).

Mathieu as modified shows all the claimed limitations except for the non-cementitious web comprising an alkaline resistant dense polymer fiber mat.

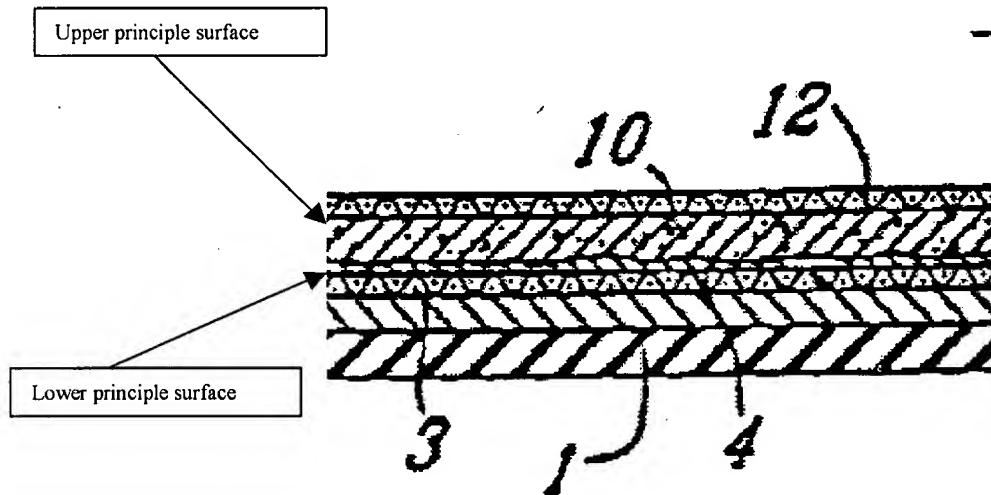
Galer shows a membrane an alkaline resistant dense polymer fiber mat.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show a non-cementitious web comprising an alkaline resistant dense polymer fiber mat because it enables the formation of a reinforced protective layer as taught by Galer.

6. Claims 45-46, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore (4882888).

Mathieu (figure 9) discloses a prefabricated asymmetrical construction element (see below) having a cement core (10, page 10 col 1 line 2 ) having an upper principal face and a lower principal face, the construction element having a top surface and a bottom surface, a

pervious cementitious bonding surface (formed by the slurry 4 when dry) remaining on the upper principal face of the core after the manufacture of the construction element, a cement slurry binding the reinforcing layer to the upper principal face of the core, the structural construction element being asymmetrical in design such that after manufacture, the upper principal surface including a pervious cementitious bonding surface and the lower principal surface including an impervious non-cementitious reinforcing membrane, the construction element being a prefabricated structural element capable of supporting loads (not known yet) associated with elements used as an underlayment or backerboard, the different moisture resistant layers having different moisture resistant properties, the core including alkaline resistance fibers.



Mathieu does not show a single non-cementitious reinforcement impervious web layer remaining on the lower principle face of the core after the manufacture of the element, and the web being high tensile strength, the web barrier enabling water vapor to pass therethrough, the impervious reinforcement web having a non-cementitious lower surface, a non-cementitious

surface remaining on the lower principal face of the structural construction element after the manufacture of the structural construction element, the upper principal surface and the lower principal face of the core having different moisture resistant layer respectively on each.

Moore discloses a single impervious polymer web layer (20) remaining on the lower principle surface of the core (24) after the manufacture of the element to act as a water barrier, the membrane being high tensile strength.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu to show a single non-cementitious reinforcement impervious web layer remaining on the lower principle face of the core after the manufacture of the element, and the web being high tensile strength, the web barrier enabling water vapor to pass therethrough, the impervious reinforcement web having a non-cementitious lower surface, a non-cementitious surface remaining on the lower principal face of the structural construction element after the manufacture of the structural construction element, the upper principal surface and the lower principal face of the core having different moisture resistant layer respectively on each because having a single impervious membrane layer on the lower principle surface of the core after the manufacture of the element would provide a water barrier to the construction element as taught by Moore.

Mathieu as modified shows only one impervious membrane for the construction element that being located on the lower principal surface of the core, a non-cementitious surface remaining on the lower principal face of the structural construction element after the manufacture of the structural construction element, the upper principal surface and the lower principal face of the core having different moisture resistant layer respectively on each (per the

different properties of the membrane and the top cementitious layer), the web having sufficient tensile strength to provide the element with a flexural strength capable of supporting loads associated with elements used as an underlayment or backerboard, the web having a resistant to free water penetration greater than or equal to that of felt paper.

7. Claims 50-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathieu (0000738) in view of Moore.

Mathieu as modified shows all the claimed limitations except for the fiber being chopped reinforcement fibers randomly dispersed in the core.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Mathieu's modified structure to show the fiber being chopped reinforcement fibers randomly dispersed in the core because using chopped fibers randomly distributed on a core to reinforce a core is well-known in the art as it provides high strength to the core while maintaining low distribution cost.

***Response to Arguments***

1. Applicant's arguments filed 9/27/07 have been fully considered but they are not persuasive.
2. In response to applicant's argument that Moore (4884888) is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the prior is reasonably pertinent to the particular problem with which applicant was concerned; Moore is to the forming of a multi-

layer panel that is provides for good insulation, and applicant is concerned with building a multi-layered panel that has insulation properties. The prior art is analogous.

3. With respect to Moore, the reference is a secondary reference which is combined with the primary reference to Mathieu. Specifically, Moore is relied upon to teach an impervious non-cementitious reinforcement polymer web on the lower principle surface of the core. Mathieu as modified by Moore's teaching shows the claimed limitations.

4. With respect to "prefabricated", the primary reference to Mathieu shows a prefabricated panel as claimed. Modifying Mathieu with Moore, does not prevent Mathieu's panel from being "prefabricated" as argued by applicant.

5. With respect to "impervious membrane", Moore shows an "impervious membrane" as claimed. If applicant means "impervious membrane" to mean something different, applicant is encouraged to more clearly claim the limitation.

6. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine is found in the references themselves. The motivation to combine is clearly set forth above.

7. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on

combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

8. With respect to applicant's statements that the combination of Mathieu with other references, specifically Moore, destroys Mathieu's teaching. Examiner respectfully disagrees. As modified, Mathieu still is able to function as a prefabricated panel as disclosed. The combination does not prevent the reference from functioning as disclosed.

9. The arguments are thus moot.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phi D A whose telephone number is 571-272-6864. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on 571-272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phi Dieu Tran A

PA

12/10/07



BRIAN E. GLESSNER  
SUPERVISORY PATENT EXAMINER